IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

1. (currently amended) A packet data processing apparatus for processing a packet data stream received through a packet-switched network, wherein:

said packet data processing apparatus comprises:

a network interface unit for receiving packet data constituting said packet data stream from said packet-switched network;

a buffer for temporarily storing said packets received by said network interface unit;

a processing unit for sequentially reading and processing the packet data stored in said buffer; and

a monitoring unit for monitoring a state of said buffer periodically; and

said monitoring unit comprises:

an underflow or overflow processing part which periodically judges whether the buffer is in a state of underflow or overflow, and if the buffer is in the state of underflow or overflow, performs a process to have an amount of data stored in the buffer to be equivalent to a predetermined amount for absorbing transmission fluctuation, and

a synchronous processing part which makes said processing unit skip at least one packet data to be read and processed next by said processing unit, if a number of the packet data stored in said buffer shows a tendency of increasing from a

predetermined number of packet data, successively a given number of times; and

which makes said processing unit suspend operation during a period of time required

for reading and processing at least one packet data, if the number of the packet data

stored in said buffer shows a tendency of decreasing from the predetermined

number of packet data, successively the given number of times

~~makes said processing unit skip at least one packet data to be read and processed~~

~~next by said processing unit, in the case where a number of the packet data stored in~~

~~said buffer shows a tendency of increasing from a predetermined number of data,~~

~~successively a given number of times; and~~

~~makes said processing unit suspend operation during a period of time~~

~~required for reading and processing at least one packet data, in the case where the~~

~~number of the packet data stored in said buffer shows a tendency of decreasing from~~

~~the predetermined number of data, successively the given number of times.~~

2.   (currently amended) The packet data processing apparatus according

to Claim 1, wherein:

said synchronous processing part of the monitoring unit periodically monitors

the state of said buffer synchronously with points when said processing unit reads a

packet data from said buffer;

and as a result,

when it has not finished to store a packet data, which comes after (said

predetermined number of data – 1) packet data from a packet data to be read from

said buffer by said processing unit, into said buffer, then, said monitoring unit judges

that the number of the packet data stored in said buffer tends to decrease from the predetermined number of data; and

when it has finished to store packet data, which comes after said predetermined number of data from a packet data to be read by said processing unit from said buffer, into said buffer, then, said monitoring unit judges that the number of the packet data stored in said buffer tends to increase from the predetermined number of data.

3.   (currently amended) The packet data processing apparatus according to Claim 1, wherein:

said underflow or overflow processing part renders said processing unit to either suspend operation until packet data of said predetermined number of packet data are stored into said buffer, when said buffer underflows or skip the packet data to be read and processed next by said processing unit, by said predetermined number of packet data, when said buffer overflows

~~when said buffer underflows, said monitoring unit makes said processing unit suspend operation until packet data of said predetermined number of data are stored into said buffer; and~~

~~when said buffer overflows, said monitoring unit makes said processing unit skip the packet data to be read and processed next by said processing unit, by said predetermined number of data.~~

4.   (currently amended)The packet data processing apparatus according to Claim 1, wherein:

said packet data stream represents an audio signal or a video signal; and

said underflow or overflow processing part performs a process of sequentially reading out the packet data stored in said buffer ~~the packet data stored in said buffer are sequentially read and processed~~ in order to perform real-time reproduction of the audio signal or the video signal represented by said packet data stream received through said packet-switched network.

5.   (currently amended)A packet data processing program for processing a packet data stream received by a computer system through a packet-switched network, wherein:

said packet data processing program is read and executed by said computer system, to implement:

a buffer for temporarily storing packet data that constitute said packet data stream received through said packet-switched network;

a processing unit for sequentially reading and processing packet data stored in said buffer; and

a monitoring unit for monitoring a state of said buffer periodically;

on said computer system; and

said monitoring unit comprises:

an underflow or overflow processing part which periodically judges whether the buffer is in a state of underflow or overflow, and if the buffer is in the state of

6

underflow or overflow, performs a process to have an amount of data stored in the buffer to be equivalent to a predetermined amount of data for absorbing transmission fluctuation, and

a synchronous processing part which makes said processing unit skip at least one packet data to be read and processed next by said processing unit, if a number of the packet data stored in said buffer shows a tendency of increasing from a predetermined number of packet data, successively a given number of times; and which makes said processing unit suspend operation during a period of time required for reading and processing at least one packet data, if the number of the packet data stored in said buffer shows a tendency of decreasing from the predetermined number of packet data, successively the given number of times

~~makes said processing unit skip at least one packet data to be read and processed next by said processing unit, in the case where a number of the packet data stored in said buffer shows a tendency of increasing from a predetermined number of data, successively a given number of times; and~~

~~makes said processing unit suspend operation during a period of time required for reading and processing at least one packet data, in the case where the number of the packet data stored in said buffer shows a tendency of decreasing from the predetermined number of data, successively the given number of times.~~

6.   (original)   A storage medium that sores the packet data processing program according to Claim 5 and is readable by a computer system.

7.   (currently amended)A packet data processing method for processing a packet data stream received through a packet-switched network, comprising:

a storing step in which packet data constituting said packet data stream are received from said packet-switched network and stored temporarily in a buffer;

a processing step in which packet data stored in said buffer are sequentially read and processed; and

a monitoring step in which a state of said buffer is monitored periodically; and

in said monitoring step comprises:

performing in an underflow or overflow processing part which periodically judges whether the buffer is in a state of underflow or overflow, and if the buffer is in the state of underflow or overflow, a process to have an amount of data stored in the buffer to be equivalent to a predetermined amount for absorbing transmission fluctuation, and

making, by a synchronous processing part, said processing unit skip at least one packet data to be read and processed next by said processing unit, if a number of the packet data stored in said buffer shows a tendency of increasing from a predetermined number of data, successively a given number of times, and making said processing unit suspend operation during a period of time required for reading and processing at least one packet data, if the number of the packet data stored in said buffer shows a tendency of decreasing from the predetermined number of packet data, successively the given number of times

when a number of the packet data stored in said buffer shows a tendency of
increasing from a predetermined number of data, successively a given number of
times, then, in said processing step, at least one packet data to be read and
processed next by said processing unit is made to be skipped; and

when the number of the packet data stored in said buffer shows a tendency of
decreasing from the predetermined number of data, successively the given number
of times, then, processing in said processing step is made to be suspended during a
period of time required for reading and processing at least one packet data.